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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,354

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Michael Shannon McCorquodale

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EXAMINER

MIS, DAVID C

ART UNIT

PAPER NUMBER

2817

MAIL DATE

DELIVERY MODE

02/24/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<i>Office Action Summary</i>	Application No.	Applicant(s)	
	10/593,354	MCCORQUODALE ET AL.	
	Examiner	Art Unit	
	David Mis	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,10,16,26,28,31,34,39,51,66,67,69 and 70 is/are rejected.
- 7) ☒ Claim(s) 11-14,18,20,23,30,36-38,44,47,60-62 and 68 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Disposition of Claims: Claims pending in the application are 1,2,10-14,16,18,20,23,26,28,30,31,34,36-39,44,47,51,60-62 and 66-70.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 10, 16, 26, 28, 31, 34, 39, 51, 66, 67, 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of Shigemori et al.

Schmidt disclosed an apparatus comprising a reference resonator (Fig. 1: 6; Fig. 2: 52) to provide a first signal having a resonant frequency (6 -> 7); an amplifier coupled to the reference resonator (55); a frequency controller (10, 12, 14 ...) coupled to the reference resonator, the frequency controller to maintain the resonant frequency substantially constant ([0004]) ..., but did not disclose ... at a selected first frequency of a plurality of frequencies, the frequency controller comprising: a coefficient register to store a first plurality of coefficients; and a first array having a plurality of capacitive modules.

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Shigemori et al disclosed the frequency controller (Fig. 6: 12, 40) coupled to the reference resonator (1), the frequency controller to maintain the resonant frequency ... at a selected first frequency of a plurality of frequencies (column 6, line 65 to column 7, line 4), the frequency controller comprising: a coefficient register (Fig. 6: ROM, where the memory output register served this purpose) to store a first plurality of coefficients (column 11, lines 25-38, where the words from the ROM for the selected frequency were coefficients that controlled the switched capacitors); and a first array (12) having a plurality of capacitive modules (13n, 14n). It would have been obvious to one of ordinary skill in the art to have incorporated reference oscillator frequency selection teachings of Shigemori et al in reference oscillator frequency stability teachings of Schmidt, "motivated" to provide stability to the selected frequency. It would have been obvious to one of ordinary skill in the art to have incorporated the PLL teachings of Shigemori et al in the PLLs of Schmidt, "motivated" to provide a plurality of frequency adjustments; ... divider ... (Shigemori et al: RD 15); ... square wave generator ... (logic circuit thresholds); ... duty cycle ... (property of division); ... process variation compensator ... (Schmidt: hot  $e^-$  sensor); ... differential ... (resonators all provide differential signals); ... single ended substantially square wave ... (56); ... LC ... it would have been obvious to one of ordinary skill in the art to have incorporated equivalent resonators, "motivated" to provide minimally expensive elements.

4. Claims 11-14, 18, 20, 23, 30, 36-38, 44, 47, 60-62 and 68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

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independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Mis whose telephone number is (571) 272-1765. The examiner can normally be reached on Monday through Thursday; 6-11 AM and 12-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Mis/  
Primary Examiner, Art Unit 2817